



A4-10

**PURCHASE SPECIFICATION  
WORKSTATION FURNITURE & RACKS FOR  
FARAKKA STAGE -I (3X200MW)**

PS/404/2785

REV No. : 00

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**PROJECT : FARAKKA STAGE -I (3X200MW)**  
**CUSTOMER : M/S NTPC**  
**EQUIPMENTS : WORKSTATION FURNITURE (SECTION OF 2)  
PC RACK/RACK BEHIND LVS  
SERVER RACK**

**TITLE  
PURCHASE SPECIFICATION  
WORKSTATION FURNITURE &  
RACKS FOR FARAKKA STAGE -I  
(3X200MW)**

Dept Code  
404

DRN.	NAME	SIGN	DATE
PREPARED	HARITEJA N		17.10.2018
CHECKED	BIRENDER NATH SHARMA		17.10.2018
APPROVED	D PRAKASH		17.10.2018



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**PURCHASE SPECIFICATION  
WORKSTATION FURNITURE, RACKS &  
CONFERENCE TABLE FOR FARAKKA STAGE -I  
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**REVISION HISTORY SHEET**

REV No.	DATE	NATURE OF CHANGE	REASON	PREPARED BY	CHECKED BY	REVIEWED BY
00	17.10.2018	FIRST ISSUE	---	HN	BNS	DP

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Industrial grade furniture items, as per specifications mentioned below, from reputed manufacturers/suppliers, meeting International Standards, are required for FARAKKA STAGE –I (3X200MW) Project. The desk & furniture shall be modular and latest with ease of operational features. The furniture shall be modern, aesthetically designed, modular, flexible, space saving and future safe. Each module shall have transparent cover and adjustable partition. It shall have locking provision for security. The components shall be suitable for integration/fabrication without any welding technology

Furniture as mentioned below are required:

1. Workstation furniture (section of 2) – As per **part A**
2. PC rack (rack behind LVS) – As per section **part B**
3. Server rack– As per **part C**

**Note:**

1. **General specifications are mentioned in part D of this document.**
2. **Supplier is required to submit the filled, signed and stamped copy of this specification along with the offer, failing which offer is liable for rejection.**

**Annexures:**

- |              |   |                                      |
|--------------|---|--------------------------------------|
| Annexure I   | – | Workstation furniture (section of 2) |
| Annexure II  | – | PC rack (rack behind LVS)            |
| Annexure III | – | Server rack                          |

**PART - A****WORKSTATION FURNITURE (SECTION OF 2) FOR PROGRAMMER ROOM**

Modular workstation furniture suitable for mounting programmer stations, PC based systems, shall be as per BHEL drawing attached as Annexure – I. Brief specifications for the same are given below:

Sl. No.	Specification	Supplier's Remark
1	Design, Manufacture / Fabrication and Supply of in Position Control Room Racks as per indicative drawing (Annexure-I)	
2	It shall consists of Vertical, Horizontal and Base supports with their coverings and Work surfaces and Pullout Keyboard Trays, concealed wire way management profiled trays with covers in both Horizontal and Vertical Directions complete with clamps, adapter sleeve, switches, foot rest etc.	
3	<b>VERTICAL SUPPORT :</b> Support legs dimensions as per drawing in minimum 2.0 mm thick extruded / profiled aluminium / laminated steel, to hold mounting base, work surface and shelves. Side and top supports / stiffeners to be provided, as required, for strength and supporting wire ways.	
4	<b>WORK SURFACE</b> •Worktop of dimensions as per the drawing. It shall be made of MDF board, laminated/veneered on both sides, having minimum 25mm thickness. •Profiled Steel Support and cantilevered beam, if required, in Die Cast Aluminium/Steel, to support legs and pillars which are to be powder coated in approved color/shade. •Worktop to have keyboard trays of compact design with provisions for sliding, complete with mounting arrangement. •Shelves to hold the CPU to be height adjustable.	
5	Tracking light and foot rest should be provided for each section of the workstation furniture	



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**PART - B****PC RACK (RACK BEHIND LVS)**

Sl. No.	Specification	Supplier's Remark
1	Design, Manufacture / Fabrication and Supply of in Position Control Room Racks as per drawing (Annexure-III). The PC Rack shall be provided to mount CPU's of workstation of OWS/LVS in the control room.	
2	It shall consists of Vertical, Horizontal and Base supports with their coverings and Work surfaces, wire way management profiled trays with covers in both Horizontal and Vertical Directions complete with clamps, adapter sleeve, switches, etc.	
3	VERTICAL SUPPORT : Minimum 2.0 mm thick extruded / profiled aluminium / laminated steel, to hold mounting base, work surface and Shelves. Side and top supports/stiffeners to be provided, as required, for strength and supporting wire ways.	
4	WORK SURFACE/SHELVES <ul style="list-style-type: none"> <li>• Worktop of dimensions as per drawing. It shall be made of MDF board, laminated/veneered on both sides, having minimum 25mm thickness. Shelves should be capable of sustaining the weight of 2 workstations/PC. The surface should not deform / bend because of the weight.</li> <li>• Profiled steel support and cantilevered beam, if required, in Die Cast Aluminium/Steel, to support legs and pillars which are to be powder coated in approved color/shade.</li> <li>• Shelves to hold the CPU to be height adjustable.</li> </ul>	
5	PC rack width and depth to be as per drawing enclosed. PC rack shall be of modular in design. Each module shall have transparent cover adjustable partition.	
6	PC rack shall have locking provision for security. The component shall be suitable for instigation/fabrication without any welding technology.	
7	For ensuring proper cooling in door closed condition, in front side & rear side, louvers in top tier and bottom tier to be provided and on rear side exhaust fans to be provided in parallel to these louvers.	

**PART - C****SERVER RACK**

Sl. No.	Specification	Supplier's Remark
1	Design, Manufacture / Fabrication and Supply of in server racks as per drawing (Annexure-IV). The Server Rack shall be provided to mount CPU's of workstations, PC based systems, servers (of rack and tower type, mini UPS etc. in programmer room. Suitable arrangement for ventilation and cooling shall be built in.	
2	It shall consists of Vertical, Horizontal and Base supports with their coverings and Work surfaces, wire way management profiled trays with covers in both Horizontal and Vertical Directions complete with clamps, adapter sleeve, switches, etc.	
3	VERTICAL SUPPORT : Minimum 2.0 mm thick extruded / profiled aluminium / laminated steel, to hold mounting base, work surface and Shelves. Side and top supports/stiffeners to be provided, as required, for strength and supporting wire ways.	
4	WORK SURFACE/SHELVES <ul style="list-style-type: none"> <li>• Worktop of dimensions as per drawing. It shall be made of MDF board, laminated/veneered on both sides, having minimum 25mm thickness. Shelves</li> </ul>	

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	should be capable of sustaining the weight of server PC, 1 KVA mini UPS and Battery, and other equipments mounted on the rack. The surface should not deform / bend because of the weight. <ul style="list-style-type: none"> <li>• Profiled steel support and cantilevered beam, if required, in Die Cast Aluminium/Steel, to support legs and pillars which are to be powder coated in approved color/shade.</li> <li>• Shelves to hold the CPU to be height adjustable.</li> </ul>	
5	Width and depth to be as per drawing enclosed. Server rack shall be of modular in design. Each module shall have transparent cover adjustable partition.	
6	Server rack shall have locking provision for security. The component shall be suitable for integration/fabrication without any welding technology.	
7	For ensuring proper cooling in door closed condition, in front side & rear side, louvers in top tier and bottom tier to be provided and on rear side exhaust fans to be provided in parallel to these louvers.	

**NOTE:**

1. The CPU units of servers / workstations will weigh approximately 20 kgs each, miniUPS and battery together will weigh around 60 kgs totally. The design proposed should be capable of supporting the above load.
2. Dimensions are indicative, detailed component size and specification may be vendor specific within broad specs given above.
3. As required Nos. of 4 way, 5/15 Amps power socket strip mounted on each of the shelves.

**PART – D: – GENERAL SPECIFICATIONS WHEREVER APPLICABLE**

Sl. No.	Specification	Supplier's Remark
1	Finished surface to be free from waves, belies or other imperfections. Surface to be Powder Coated or if Spray painted, 2 coats of inhibitive epoxy primer surface to be applied. Paint with Minimum of 2 coats of Primer and 2 sprays of final finish color to be applied OR powder coated with epoxy paint. Exact color and shade of components will be specified at the time of Order placement. Minimum thickness for Aluminum Sheets: is 30 microns. For MS Components: is 65 microns	
2	Along with offer detailed drawings showing sectional view, top view, front view, and rear view of desks and tables, electrical wiring diagram with bill of materials for each item.	
3	Documents to be submitted for manufacturing approval: <ul style="list-style-type: none"> <li>▪ Detailed OGA with front view, top view, rear view, sectional view, and floor cut-out details for desks and tables.</li> <li>▪ Electrical Wiring Diagram with BOM of racks, workstation furniture and printer racks.</li> <li>▪ Quality Plan</li> <li>▪ Color Shade options.</li> </ul>	
4	Supplier internal Test certificate for dimensions, visual inspection, paint, HV, IR, electrical functions to be submitted before giving inspection calls to BHEL.	
5	Inspection by BHEL / CUSTOMER at supplier's work.	
6	<b>For PC and Server Rack in order to ensure proper cooling arrangement, in door closed condition, in front side &amp; rear side, louvers in top tier and bottom tier to be provided and on rear side exhaust fans to be provided in parallel to these louvers.</b>	
7	All items will be directly dispatched to project site from supplier works after obtaining necessary clearance from BHEL. Consignee details will be intimated at the time of placement of PO.	



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8	All items shall be packed in complete weather proof packing with sufficient cushioning to avoid transit damage. Suitable pallet shall be provided for handling and transportation	
9	Name Plates with following details are to be provided for each shipping section. <ul style="list-style-type: none"><li>▪ Item: <b>As per PO</b></li><li>▪ Project Name / Unit no: <b>As per PO</b></li><li>▪ Customer Name: <b>As per PO</b></li><li>▪ BHEL Order No.: <b>As per PO</b></li><li>▪ Date of dispatch to site: <b>As per PO</b></li></ul>	
10	Assembly, erection and installation, including laying of power cables, keyboard, mouse and monitor extender cables, termination of the cables, at site to be carried out by supplier. Offer to include charges for same along with necessary touch up etc.	
11	Modifications as per site requirements to be done on free of cost to match with floor opening for cables. Site work for aligning and matching the curvature of desk as shown in enclosed drawing is under supplier scope.	
12	Warranty: Offer to include "Two years warranty at site" for all items against manufacturing defects from date of supply. Warranty to include all costs towards material, labor, to & fro, traveling, accommodation and stay etc. Exact location of the project site will be intimated at the time of PO.	

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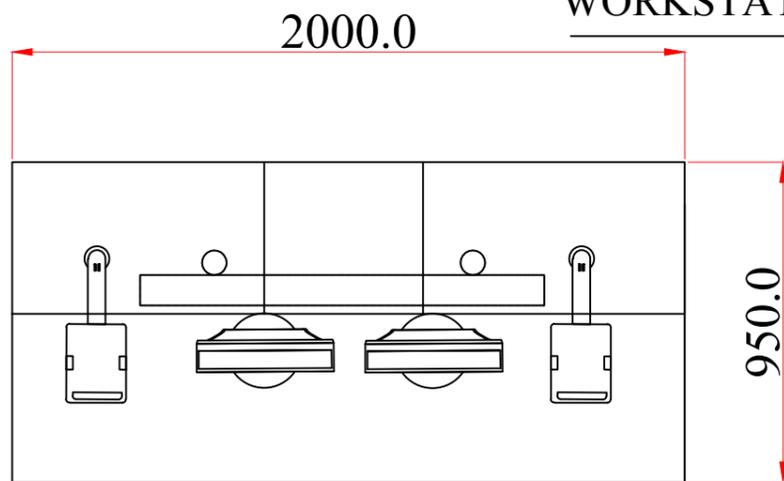
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ANNEXURE-I

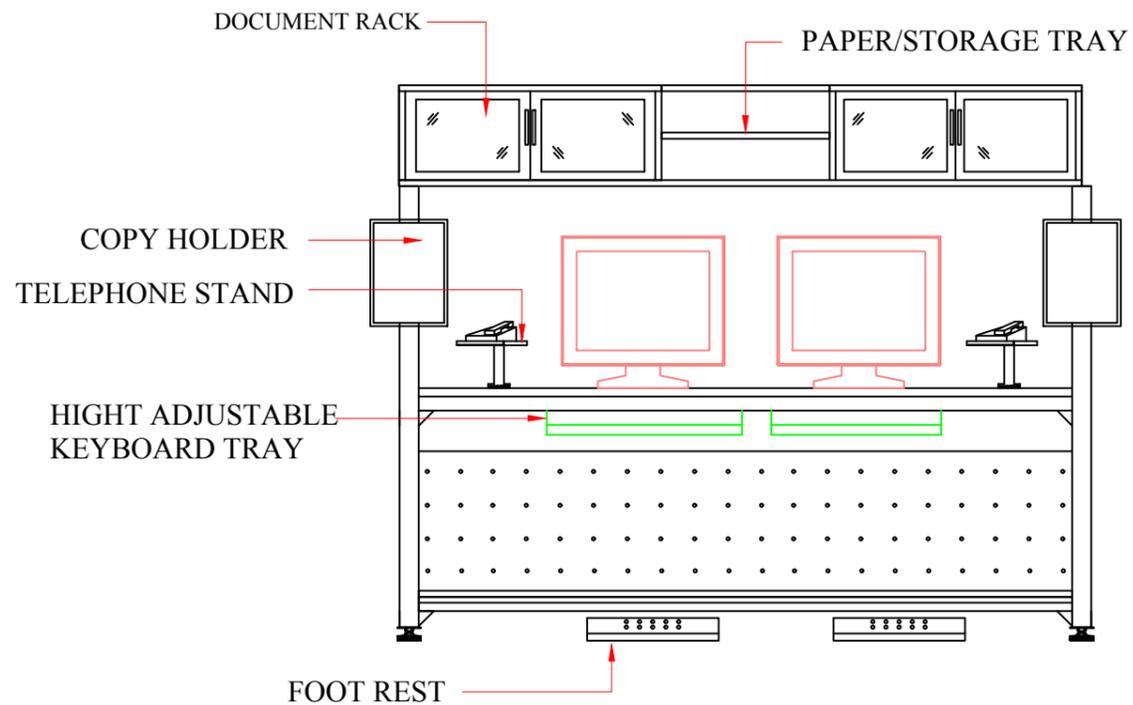
WORKSTATION FURNITURE (SECTION OF 2)

NOTE :

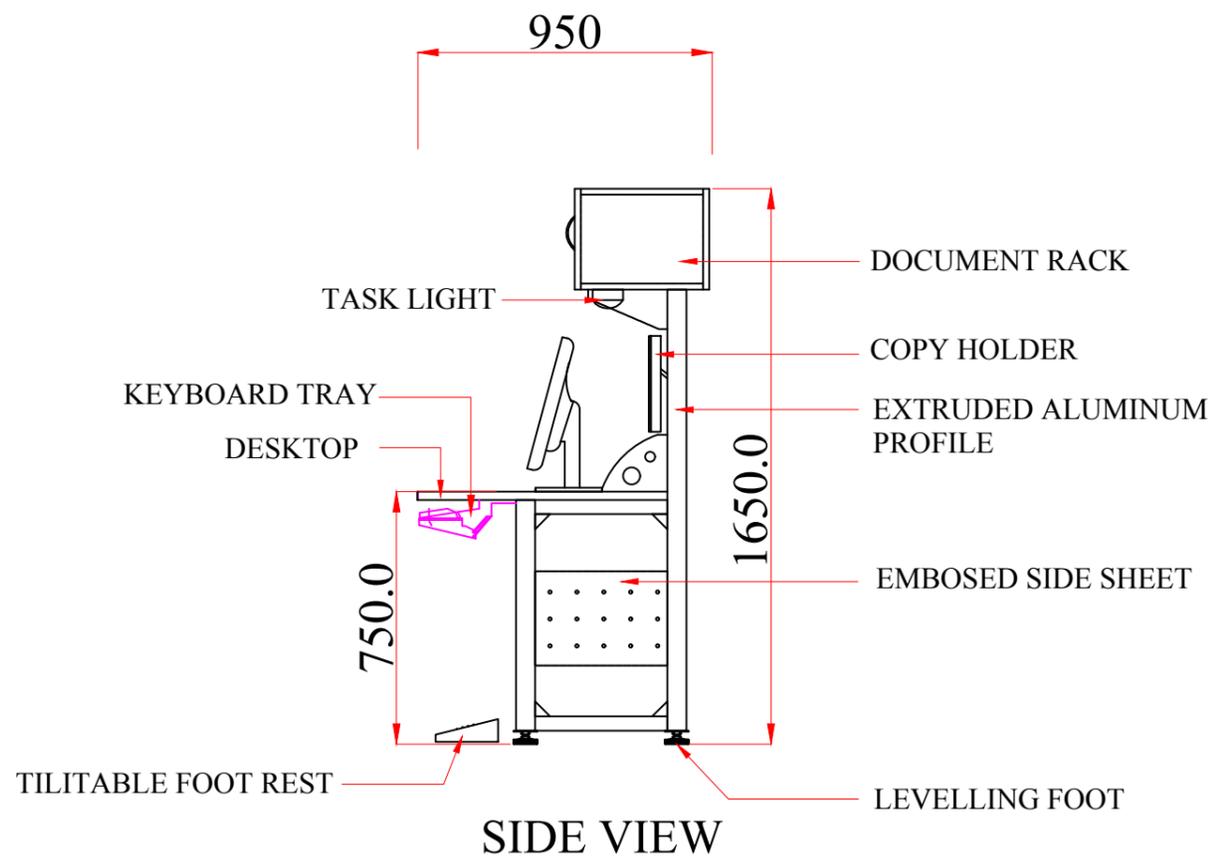
- 1) WORK SURFACE THK : 25 MM (PARTICLE BOARD)
- 2) COLOR OF LAMINATE - AS PER APPROVAL
- 3) PAINT SHADE  
SIDE & BACK SHEET - AS PER APPROVAL
- 4) PAINT THICKNESS  
MS COMPONENTS : MIN. 60 MICRON
- 5) TOTAL ALUMINIUM EXTRUSION - CROMATISED & THEN  
POWDER COATED IN ALUMINUM GREY (RAL 9006)
- 6) CPU DIMENSIONS : 445(H) X 220(W) X 650(D) MM.  
UPS DIMENSIONS : 220(H) X 150(W) X 410(D) MM.  
22" MONITOR DIMENSIONS : 514 (W) X 65 (D) X 306(H) MM.  
UPS & BATTERY DIMENSIONS : 250 (W) X 550(H) X 550(D) MM.
- 7) COLOR OF PVC EXTRUSION - RAL 5012 OR SIMILAR
- 8) 4 WAY SPIKE BUSTER (5/15 A RATED)  
TO BE PROVIDED FOR EACH SECTION OF WORKSTATION
- 9) CPU's & MONITORS ARE SHOWN FOR ILLUSTRATION  
PURPOSE ONLY, IT IS NOT PART OF THIS OGA .



TOP VIEW



FRONT VIEW



SIDE VIEW

PRODUCT : FARAKKA STG-I (3x200 MW)  
CUSTOMER: M/s NTPC

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ELECTRONICS DIVISION, BANGALORE

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**BHEL**

DEPT. ENGG  
CODE 404

TITLE:	OGA OF WORKSTATION FURNITURE (SECTION OF 2)		No. OF SHEETS	08
			SHEET No.	08

WBS. No.	CE/1430-SH1-56-01	DRG. No.	3 659 44 04257	REV	00
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36594402806 01

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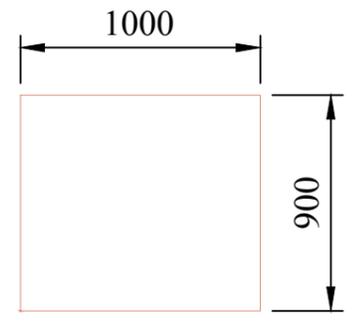
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DRG. No. 3 659 44 03662

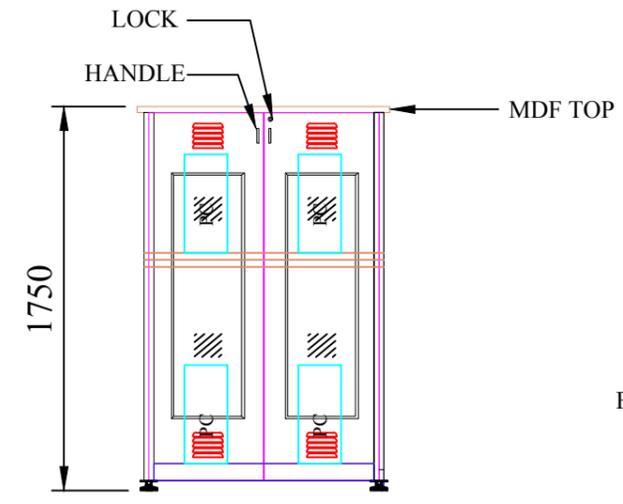
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## ANNEXURE-II

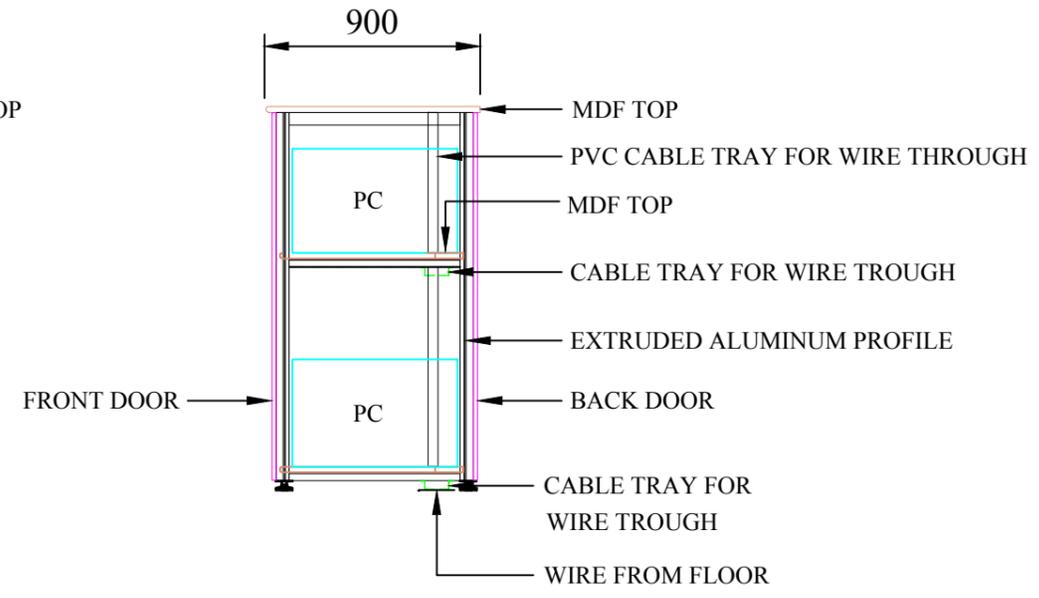
### PC RACK (RACK BEHIND LVS)



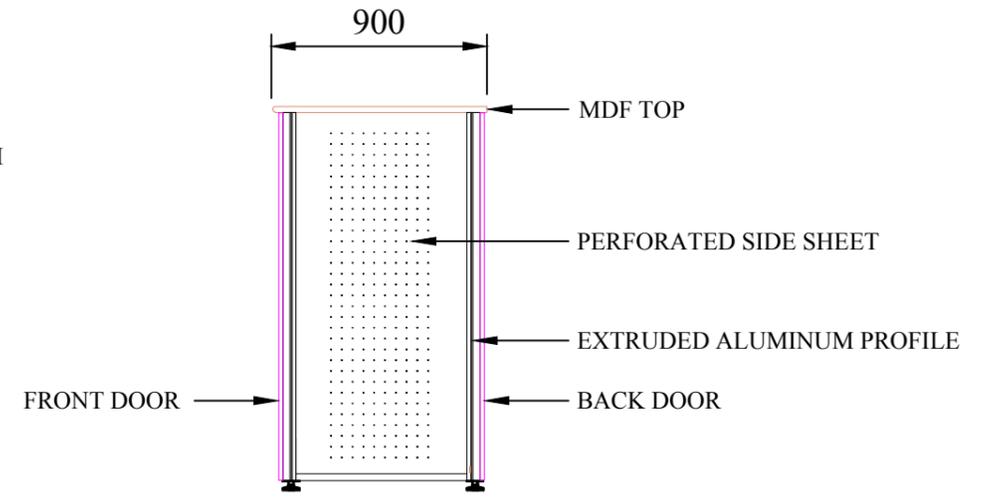
**TOP VIEW**



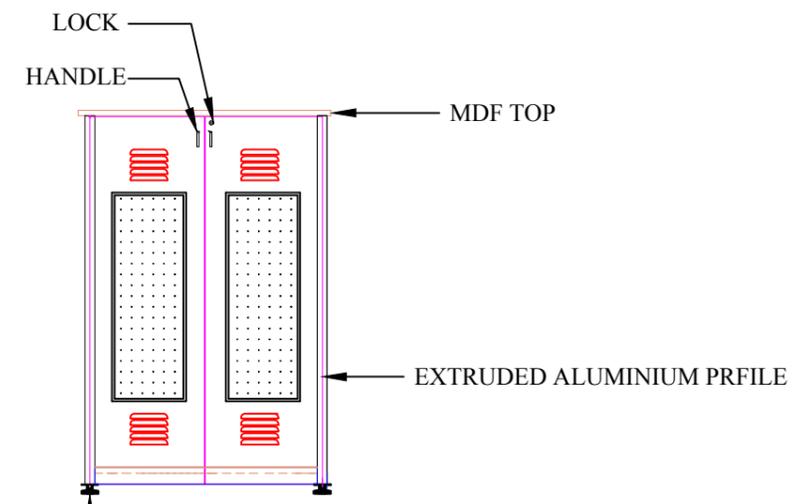
**FRONT VIEW**



**SECTIONAL SIDE VIEW**



**SIDE VIEW**



**BACK VIEW**

**NOTES :-**

1. SHELVES THK : 25 MM (MDF)  
SIDE SHEET THICKNESS - 1.6mm
2. COLOR OF LAMINATE - AS PER APPROVAL
3. PAINT SHADE  
SIDE COVER & BACK DOOR - (AS PER APPROVAL)
4. EXTREME SIDE COVERS WILL BE EMBOSSED
5. ALL ALUMINIUM EXTRUSION WILL BE POWDER COATED  
IN ALUMINIUM GREY.
6. WORKSTATIONS OF OWS WILL BE KEPT IN CLOSED RACK WITH  
GLASS DOOR (FRONT) & PERFORATED SHEET DOOR (REAR).
7. THE CPU UNITS OF SERVERS / WORKSTATIONS WILL WEIGH APPROXIMATELY  
20 KGS EACH, THE DESIGN PROPOSED SHOULD BE CAPABLE OF SUPPORTING  
THE ABOVE LOAD

**PRODUCT :** FARAKKA STG-I (3x200 MW)  
**CUSTOMER:** M/s NTPC

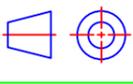
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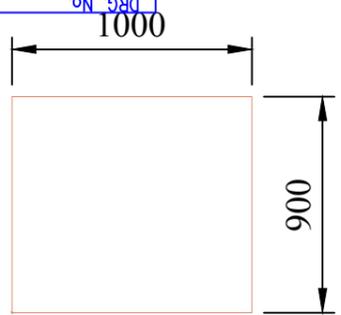
WBS. No.	CE/1430-SH1-56-01	DRG. No.	3 659 44 04257
<p><b>OGA OF PC RACK</b></p>			No. OF SHEETS : 08 SHEET No. : 06 REV : 00

REF. DRG. No. 36594402806 01

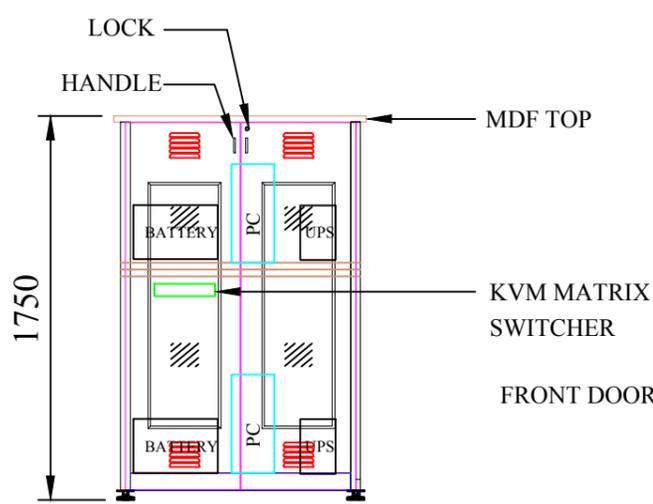
SIGN. & DATE

INVENTORY No.

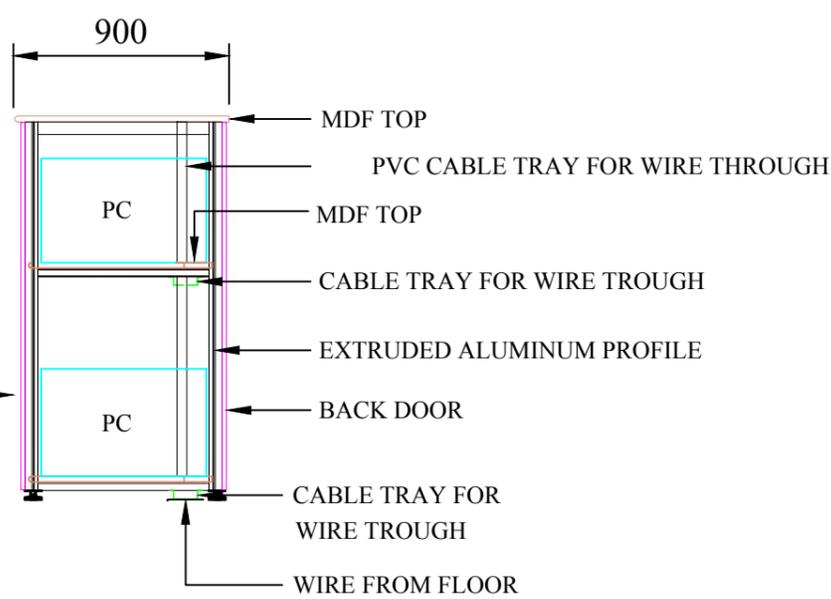
# ANNEXURE-III SERVER RACK



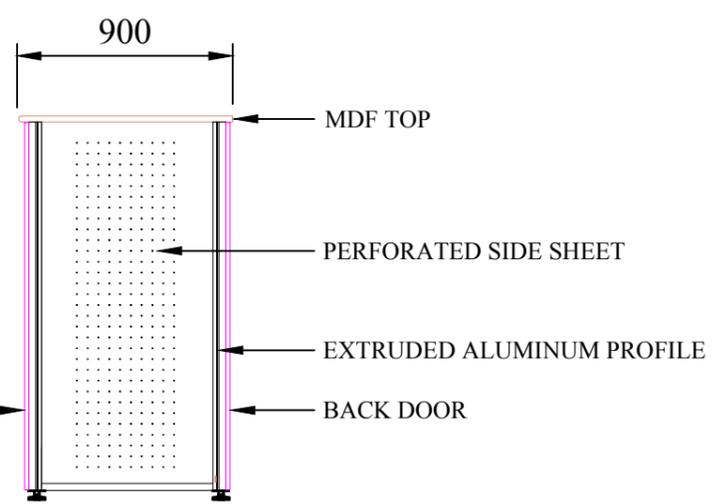
TOP VIEW



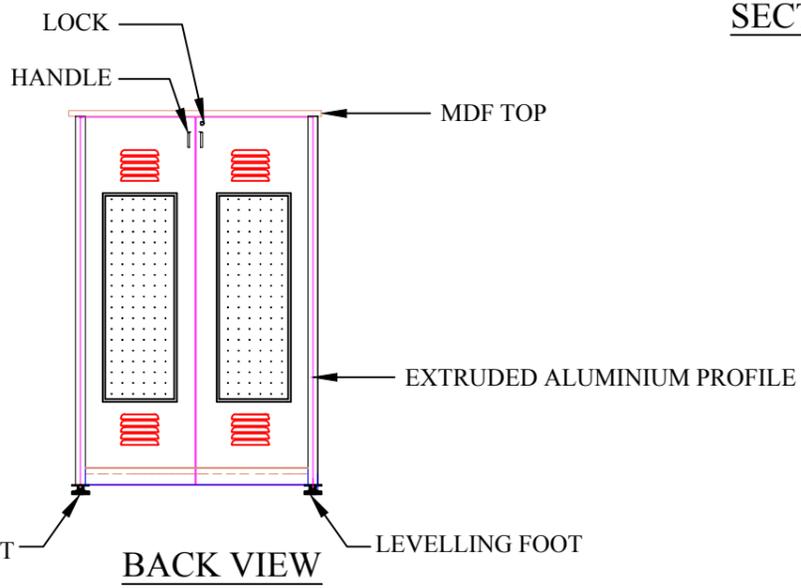
FRONT VIEW



SECTIONAL SIDE VIEW



SIDE VIEW



BACK VIEW

NOTES :-

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7. THE CPU UNITS OF SERVERS / WORKSTATIONS WILL WEIGH APPROXIMATELY  
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TOTALLY. THE DESIGN PROPOSED SHOULD BE CAPABLE OF SUPPORTING  
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PRODUCT : FARAKKA STG-I (3x200 MW)  
CUSTOMER: M/s NTPC

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TITLE:	OGA OF SERVER RACK		No. OF SHEETS	08
			SHEET No.	07
WBS. No.	CE/1430-SH1-56-01	DRG. No.	3 659 44 04257	
			REV	00

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